DOCUMENT RESUME

ED 115 041 EC 080 487

AUTHOR	Thurlow, Martha L.; And Others
TITLE	Time with the Calendar Unit: A Formative Evaluation. Research Report No. 86.
INSTITUTION	Minnesota Univ., Minneapolis. Research, Development, and Demonstration Center in Education of Handicapped Children.
SPONS AGENCY	Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
BUREAU NO	BR-332189
PUB DATE	Feb 75
GRANT	OEG-09-332189-4533(032)
NOTE	86p.
EDRS PRICE	MF-$0.76 HC-$4.43 Plus Postage
DESCRIPTORS	*Curriculum Development; *Curriculum Evaluation; *Educable Mentally Handicapped; Exceptional Child Research; *Mathematics; Mentally Handicapped; Primary Education; *Time

ABSTRACT

Described is the evaluation of the pilot-test version of the Calendar Unit, part of an instructional unit developed by the Vocabulary Development Project, with 43 educable mentally retarded primary grade children from either special classes within regular schools or from a special school. Feedback for the formative evaluation came from comments of teachers, pretesting and posttesting of behavioral objectives, and classroom observations. Results are presented for each of the nine lessons in terms of objective, testing performance of classes, interpretation, and informal comments of teachers. Summarized are comments made at the teacher review board meeting. Results are discussed in terms of need for instruction, instructional effectiveness, design of the materials, content, sequencing, and test instruments. Results are seen to support the need for a calendar unit with changes being made in such areas as improving effectiveness of instruction for specific concepts. Appended are a description of the pilot-test version of the "Time with the Calendar" unit, experimental test questions, the calendar unit (book 1) pilot test questions, sample evaluation forms, calendar unit (books 2 and 3) pilot-test questions, and the revised "Time with the Calendar" tests. (DB)

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RESEARCH REPORT #86

Project No. 332189
Grant No. OE-09-332189-4533 (032)

TIME WITH THE CALENDAR UNIT: A FORMATIVE EVALUATION[1]

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February 1975

The research reported herein was performed pursuant to a grant from the Bureau of Education for the Handicapped, U.S. Office of Education, Department of Health, Education, and Welfare to the Center of Research and Development in Education of Handicapped Children, Department of Psychoeducational Studies, University of Minnesota. Contractors undertaking such projects under government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official position of the Bureau of Education for the Handicapped.

EC 080 487

Department of Health, Education and Welfare

U. S. Office of Education

Bureau of Education for the Handicapped

RESEARCH, DEVELOPMENT AND DEMONSTRATION CENTER IN EDUCATION OF HANDICAPPED CHILDREN

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TIME WITH THE CALENDAR UNIT: A FORMATIVE EVALUATION[1]

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The Time with the Calendar Unit is one of the five instructional units in the Money, Measurement and Time Program (Thurlow, Taylor & Turnure, 1973) produced by the Vocabulary Development Project. This instructional unit was developed jointly by educational practitioners and educational researchers to provide educationally handicapped children with an understanding of the calendar. The Unit was first produced in an experimental form which was subjected to both formal and informal evaluations. On the basis of these, recommendations were made for revision.

This paper is a description of the evaluation of the pilot-test version of the Time with the Calendar Unit. In the Project's four-stage overall evaluation design (Krus, Thurlow, Turnure, Taylor, & Howe, 1974), the evaluation of the pilot-test version represented Stage Three, and was referred to as the "formative" evaluation of the Time with the Calendar Unit. The major purpose of the formative evaluation was to provide a systematic basis for the revision of the Calendar Unit. The formative evaluation represented the assessment of the product during the process of its development, and involved the evaluation of its effectiveness and useability in the classroom, feedback to the developers, and subsequent changes in the materials based upon the feedback

information. Data obtained during this formative evaluation stage are included here, with a discussion of recommended changes for the Unit.

Background of the Time with the Calendar Unit

A needs assessment was conducted by searching available curriculum materials for teaching calendar-related vocabulary and skills with special emphasis placed on the availability of materials for educationally handicapped children. It was found that the materials available for teaching concepts related to the calendar were geared primarily for children of normal intelligence, or for children with entry level skills (e.g., reading and/or counting skills) exceeding those of educable mentally retarded (EMR) children of elementary school age. Based upon the evident need for instruction, the specific calendar-related needs of EMR children were extensively assessed and organized into an instructional package consistent with a verbal elaboration-based instructional approach found to be successful with EMR children (Taylor, Thurlow, & Turnure, 1974). This phase of research to development was discussed by Thurlow, Taylor and Turnure (1973).

Description of the Time with the Calendar Unit

Since the Time with the Calendar Unit was the last of the five units in the Money, Measurement and Time Program to be evaluated, feedback obtained from the previous evaluations was incorporated into the pilot-test version of the Calendar Unit and this produced a nearly finalized product.

During the formative evaluation stage, the Calendar Unit was divided into three books of instruction. These books were based on a sequential organization that had been suggested by the evaluation of the Money and Length Units (Thurlow, Krus, Howe, Taylor, & Turnure, 1974, 1975) and assessed in the Time with the Clock Unit (Krus, Howe, Thurlow, Taylor, & Turnure, 1975). The instruction in Book One (The Seasons) consisted of nine lessons (7 tape presentations). These presented the four seasons of a year, with emphasis placed on beginning time concepts related to seasonal weather changes.

Book Two instruction (The Calendar, Days, and Weeks) consisted of six lessons (2 tape presentations) and provided an introduction to the use of a calendar. It presented the calendar and its functions, and related concepts such as "day" and "week" to the calendar.

Book Three (Months) consisted of six teacher-directed lessons. This book dealt with more advanced skills related to the use of the calendar. The instruction stressed the month and its relation to other time periods presented on the calendar. (See Appendix 1 for a list of the specific lessons in each book.)

The instructional materials in the Time with the Calendar Unit included teacher's editions (three books), cassette tapes containing definitions and stories related to important calendar concepts, pictures for the students to follow as the tape was presented, and numerous worksheets and transparencies to complete

the instruction. A more complete description of the materials (and the underlying instructional techniques) used during the formative evaluation may be found in Taylor, Thurlow, and Turnure (1973).

Method

Subjects

Children in three pre-primary classes (N=31) from "neighborhood" schools and one pre-primary class (N=12) from a "special" school participated in the formative evaluation of the Time with the Calendar Unit. "Neighborhood" schools were ones which contained "regular" classes in addition to one or two "special" classes. Children in the special classes within these schools generally represented a higher functioning EMR population (i.e., those children whom it was hoped might be able to return to a "regular" class). The "special" school class was one which contained only classes for mentally retarded children. EMR children in these schools included the lower range of the population who, because of their lower functioning and associated problems, were considered less likely to return to a "regular" class.

The pre-primary children from "neighborhood" schools participating in this study had a IQ range of 57-83 ($\bar{X}$ = 71.2, SD = 5.6); and an age range of 6.0 to 10.2 years of age. ($\bar{X}$ = 8.0, SD = 1.0). The IQ range of children from the participating "special" class was 56-91 ($\bar{X}$ = 64.1, SD = 9.8) and the age range was 6.4 to 10.4 years of age ($\bar{X}$ = 8.8, SD = 1.5).

Due to production delays and time constraints, (instruction was presented at the end of the school year), only Book One of the Time with the Calendar Unit underwent formative evaluation. However, teachers particpating in this formative evaluation were presented with the content and sequencing of Books Two and Three and were requested to comment in detail as to their appropriateness. Additional information about Books Two and Three was also available since the concepts included in these books had been included in prototype materials presented to 120 EMR children participating in a summer - school program prior to the development of these materials (Riegel and Taylor, 1973). This process was part of Stage Two in the Project's four-stage overall evaluation design (cf. Krus, Thurlow, Turnure, Taylor, & Howe, 1974). Pretest and posttest scores, along with the recommendations of the teachers participating at this summer program, were invaluable in the evaluation of the more advanced calendar concepts and subsequently in the preparation of the pilot-test materials.

As a final source of information, the behavioral objectives covering all vocabulary and skills related to the calendar were translated into experimental test questions and administered to classes of retarded and non-retarded children. (See Appendix 2 for a copy of the test questions.) Data from this testing was extremely useful in determining the sequencing for instruction in the Unit. As a result, even though instruction included in Books Two and Three was not evaluated as part of the formative evaluation process, it was felt that these three additional procedures provided adequate and comprehensive feedback for the development of the Calendar Unit.

Procedure

As specified in the Vocabulary Development Project's formative evaluation design (Krus, Thurlow, Turnure, Taylor, & Howe, 1974), feedback from the pilot-testing of the instructional materials was looped back to the instructional developers for revision of the materials. The feedback information for the instructional developers was obtained in a variety of ways.

First, criterion-referenced tests were administered during the pilot-testing of the materials. Like all the other units in the Program, the Calendar Unit attempted to avoid making assumptions about the children's ability levels. Thus, each objective was tested two or three different ways to insure accurate measurement (Bart, personal communication). All students were given a pretest and posttest on the objectives from Book One. (See Appendix 3 for copy of the test questions used.)

A Teacher Review Board made up of the teachers using the materials during the formative evaluation stage was a major source of feedback for revision recommendations. Throughout the formative stage, teachers completed written evaluations on each lesson. (See Appendix 4 for a sample evaluation form.) Teachers also participated in a "Teacher Review Board" meeting when all instruction was completed. This meeting involved a two-hour discussion of all instruction, including sequencing, pictures, and any problems not covered by the evaluation forms. A discussion of the instruction in Books Two and Three was also undertaken during this meeting. Although

the teachers had not actually used these books, this discussion was an attempt to assess their potential appropriateness in terms of both content and sequencing.

Information from classroom observations was a third source of feedback for revision. Since the tape presentations were designed to build vocabulary skills, observations were made primarily during this part of the instruction. Special attention was given to the use of the materials by the teachers, and the response of the students to the tape presentations (e.g., whether or not they answered questions, gestured appropriately, etc.). Because of the quantity and subjective nature of the classroom observation data, these data have not been included in the results section of this paper. It should be noted, however, that the information obtained through classroom observations was discussed at the Teacher Review Board meeting and implications for revisions are included within that summary.

Results

A summary of each of the sources of feedback for revision is included here. All information obtained from the formative evaluation of Book One of the Calendar Unit will be presented. There is a lesson by lesson description of (1) the objectives tested, and (2) the information obtained from teacher evaluation forms. The description of the objectives includes data from tests given prior to instruction ("pre") and tests given following all instruction ("post"). The Results section concludes with a summary of the information obtained at the Teacher Review Board meeting.

It should be noted that the data included in the lesson descriptions may be somewhat confounded due to the time at which the formative evaluation took place. Unfortunately, the Unit was put into the classrooms very near the end of the school year. Thus, the test scores may reflect the teachers' attempts to rush through the instruction to complete Book One and/or the students somewhat erratic behavior which is characteristic at the end of the school year. Another confounding factor which may have affected performance scores, as well as contributed to class differences, arose from the teachers' experience with the Program. Two of the teachers participating in the formative evaluation (Schools 1 and 2) were ones who had used the materials in the Program previously, whereas the other two teachers had never used the materials before. These factors, of course, must be considered in assessing the data collected during the formative evaluation.

Formative Evaluation of Calendar Unit

Lesson 1 10

Lesson 2 13

Lessons 3, 4, 5, 6, & 7. 16

Lessons 8 & 9. 26

Notes from Teacher Review Board Meeting 27

LESSON 1: "AFTER" ACTIVITIES

A. Objective

Utilizes the word "after" when asked to describe a certain activity.

B. Performance of classes

	School 1		School 2		School 3		School 4	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Utilizes after	85	73	89	75	78	71	67	90

C. Interpretation

As can be seen by the relatively high pretest scores, minimal instruction seems necessary for utilization of the word "after." By looking at the posttest scores, one can only conclude that the instruction did not have an impact on classes 1, 2 and 3. However, class 4 (the "special" school class) did show an increase. This may be because the pretest scores were low. The instruction proved to be beneficial for those children needing the instruction, therefore, revisions do not appear to be necessary.

Lesson 1 - "After" Activities (4 teachers)

A. Purpose, Objectives, and Materials Needed

1. All felt purpose and objectives were clearly stated and easily understood.
2. It was felt that "some" (1) to "most" (3) of the children had reached the objectives before the lesson.
3. All felt materials were easy to obtain.

B. Activities

1. Activity #1 (used by 3 teachers) - good; 2 teachers suggested variations (getting drinks, standing).
2. Activity #2 (used by 3 teachers) - very good.
3. Activity #3 (used by 3 teachers) - very good; one teacher noted that "after lunch" was too vague. Asked children about TV programs, and also had them write names on board and asked "after" questions (could see if couldn't remember).
4. Activity #4 (used by 2 teachers) - good, although one teacher noted children were bored with Peabody Kit (activity would be more effective at beginning of year). One teacher also varied activity by having children repeat with their own clothes. Teacher who did not have a Peabody Kit used paper dolls and found it very effective.
5. Activity #5 (used by 3 teachers) - good; children enjoyed worksheet and sequencing. One teacher noted she had kids retell story - helped them understand and use "after."

C. General Comments on Lesson

1. All felt the purpose and objectives of the lesson were met.
2. All felt that "most" children knew the vocabulary concepts by the end of the lesson.
3. Children enjoyed lesson.
   a. All noted that Worksheet sequencing was a popular aspect of the lesson. Other popular aspects noted were Activity #1 (pencil sharpening) and Activity #3 (discussion).
   b. Nothing in the lesson was identified as "least" popular. However, children did seem to tire of Activity #4. (One teacher noted that the work on number recognition related to Calendar Skills was not popular with class.)

4. Suggested changes:
   a. One teacher noted she would drop or change the activity using the Peabody Kit.
   b. Another teacher noted she would like ideas on how to increase "fun" of number recognition (game with calendar?).
5. Most important aspect of lesson to teachers was:
   a. Activity #5 (3 teachers)
   b. Repetition of idea in different contexts.
6. Time Spent on Lesson (All felt length of lesson was "about right")
   a. 1 day - 30 minutes (1/2 hour)
   b. 4 days - 90 minutes (1 1/2 hours)
   c. 4 days - 120 minutes (2 hours)
   d. 2 days - 240 minutes (4 hours)

LESSON 2: HAPPY BIRTHDAY

A. Objectives

1. Uses the phrase "I am (8) years old," when asked how old he is.
2. States that he must wait a year for his next birthday.

B. Performance of classes

	School 1		School 2		School 3		School 4	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1. Utilizes years old	31	91	67	88	44	28	42	90
2. Utilize year	8	73	0	75	0	0	8	10

C. Interpretations

1. Low pretest scores on utilizing the phrase "years old" indicates that instruction on this objective is needed. With three of the schools showing substantial increases, instruction appears adequate. Further analysis of the data is indicated, however, for School 3. Perhaps additional activities should be recommended in specific cases.
2. Very low pretest scores showed a definite need for instruction on stating that there is a year between birthdays. Only two of the four classes showed an adequate gain in performance (to the criterion level of 80%). The other two classes showed little or no gain. This could be due to the fact that the concept of a year is rather difficult. Also, School 3 had just begun instruction on this lesson. More activities should be included in the instruction to reinforce this objective.

Lesson 2 - Happy Birthday! (4 teachers)

A. Purpose, Objectives, and Materials Needed

1. All felt purpose and objectives were clearly stated and easily understood.
2. It was felt that "none" (1) to "some" (2) to "most" (1) of the children had reached the objectives before the lesson.
3. All felt materials were easy to obtain.

B. Tape Presentation

1. None felt a pre-activity was needed.
2. All felt Lesson Organizer was helpful.
3. Introductory Relation - good; gave children feeling of a real party.
4. Definitions - all but one teacher felt children had obtained definitions presented in the tape.
   a. Two teachers felt all definitions were functional.
   b. Two teachers indicated definitions for "year" and "years old" were rote.
5. Elaborations - generally helpful.
   a. Two teachers noted that "birthday" elaboration was very good; gave idea of "once a year" event.
   b. One teacher noted that pictures for second elaboration were excellent (seasons).
6. Relations
   a. Two teachers felt all children understood the relationship between words by the end of the tape; two did not.
   b. All felt Summary Relation was very important.
   c. Suggestions related to Summary Relation.
      (1) Since concept of 4 seasons is going to be presented, perhaps 4 pictures should be used here.
      (2) One noted that a physical activity might be helpful; suggestion was not delineated.
      (3) Discuss each child's birthday - what happens before your next birthday.
7. Pictures
   a. Cover - very good
   b. #1 - good to very good
   c. #2 - very good
   d. #3 - good to very good (one teacher noted that children didn't get connection between picture and concept of year)
   e. #4 - very good, with ? noted by teacher who thought 4 seasons should be shown (NOTE: This is really picture #3)
8. Time for tape presentation: 10 - 20 minutes

C. Post-Activities

1. Activity #1 - excellent; interesting and enjoyable. Two teachers noted it would be a good activity to start at the beginning of the year (put new candles on each month).
2. Activity #2 - very good; stressed say X years old.
   a. One teacher especially liked idea of calling children by ages to line up for lunch. Another noted that children really enjoyed this.
   b. One teacher reinforced idea that children weren't 7 oranges or apples, but 7 years.

D. General Comments on Lesson

1. All felt objectives of lesson were met.
2. It was felt that "most" (2) to "all" (1) children knew vocabulary concepts at end of lesson.
3. Children enjoyed lesson.
   a. All noted that the birthday cake was very popular. Also, the tape was popular.
   b. Nothing in lesson was noted as least popular, except the difficulty of the concept "year."
4. Suggestion:
   a. One teacher had each child make own cake and put the number of candles on it to show his age. Children really enjoyed and were very proud to be able to state their age.
   b. Seasons pictures might be used as a sequence worksheet.
5. Most important aspect of lesson was viewed differently. Responses including (1) post-activities using "years old," (2) birthday cake, and (3) tape presentation.
6. Time spent on Lesson (2 felt it was "about right"; one felt it was "too short").
   a. 1 1/2 days - 35 minutes
   b. 2 days - 60 minutes ("too short")*
   c. 2 days - 90 minutes

*Teacher noted that if it wasn't the end of the school year she would spend more time on the concept of a "year."

LESSON 3: PRINCESS SUMMER-FALL-WINTER-SPRING

LESSON 4: SUMMER

LESSON 5: FALL

LESSON 6: WINTER

LESSON 7: SPRING

A. Objectives

1. States that there are <u>four</u> seasons.
2. States <u>summer</u> when asked to label a picture of a summer scene.
3. States <u>fall</u> when asked to label a picture of a fall scene.
4. Describes <u>fall</u> when asked what happens to the trees in the fall.
5. States <u>winter</u> when asked to label a picture showing a winter scene.
6. States <u>spring</u> when asked to label a picture showing a spring scene.

B. Performance of classes

	School 1		School 2		*School 3		**School 4	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1. Fact/season	8	73	22	88	0	14	17	80
2. States summer	54	91	67	75	44	28	8	50
3. States fall	15	73	44	75	22	28	17	50
4. Describes fall	62	100	56	100	67	100	42	60
5. States winter	54	91	44	88	44	57	42	20
6. States spring	46	82	44	63	22	14	17	40

C. Interpretation

1. The need for instruction on stating that there are four seasons is shown by low pretest scores. Three of the four classes showed gains almost to or at criterion level. (Class 3 had minimal instruction at this point.) Based on these gains, instruction seemed to be complete.

*Did not receive instruction on these lessons.

**Did not receive instruction related to objectives 5 and 6.

2. Gains in performance for the two classes (1 & 2) that finished Book One are satisfactory. A decrease in scores for School 3 seems unusual since they did not receive instruction after Lesson 3. School 4 shows a minimal gain. Perhaps over-all performance would be better if there would have been more time for instruction.
3. Adequate gains were made on labeling the fall picture by the three classes who received instruction from this lesson. Again, greater gain scores could have been achieved had more time been allowed to complete the instruction. Lower posttest scores may also be somewhat related to the test picture used (black and white line drawing).
4. Pretest scores close to criterion level indicate that minimal instruction is necessary on describing that leaves fall from trees in the fall. Gains to 100% mastery in three of the schools indicate that instruction is complete.
5. Below criterion performance on the pretest indicate that instruction on labeling a winter scene is needed. For the two classes receiving the instruction, gains were quite adequate and the instruction included in Lesson 6 appears complete.
6. A test picture depicting the season of spring exclusively was difficult to find. Pretest scores are low and mastery after instruction was achieved by only one class (Schools 1 and 2 received the instruction). An improved test picture would probably improve performance scores.

Lesson 3 - Princess Summer-Fall-Winter-Spring (3 teachers)

A. Purpose, Objectives and Materials Needed

1. All felt purpose and objectives were clearly stated and easily understood.
2. It was felt that "some" (2) to "most" (1) of the children had reached the objectives before the lesson.
3. All materials needed were provided.

B. Tape Presentation

1. None felt a pre-activity was needed.
2. All felt Lesson Organizer was helpful.
3. Introductory Relation - good
4. Definitions - all felt children had obtained definitions presented in the tape.
   a. One teacher felt all definitions were functional.
   b. One noted definitions were functional after the post-activities.
   c. One felt "season" was rote, and definitions for "summer," "fall," "winter," and "spring" were non-generalizable.
5. Elaborations - generally helpful.
   -- Two teachers noted that the elaboration pictures were excellent.
6. Relations
   a. Two teachers felt children understood relationship between words by the end of the tape; one did not.
   b. All felt Summary Relation was very important.
   c. Suggestions for Summary Relation:
      (1) Have each child pretend he/she is the Princess, say the name, tell the seasons, and use word "season."
      (2) Could use paper doll; have clothing matching that of the Princess - children dress doll for each season.
7. Pictures
   a. Cover - very good
   b. #1 - good to very good
   c. #2 - very good (colors would have been nice)
   d. #3 - very good
   e. #4 - very good
   f. #5 - excellent
8. Time for tape presentation: 20 minutes

C. Post-Activities (none were suggested; reaction to this was requested).

1. One teacher did not feel post-activities were needed. Concepts will be strengthened during individual season lessons. Liked idea of using lesson just to introduce the seasons.
2. One teacher said half of the students did not need post-activities, but the other half would have benefitted from them.
3. One teacher felt there should be some, but could not think of any that would not use identification of the seasons.

D. General Comments on Lesson.

1. Two felt purpose and objectives of lesson were met. One was not sure.
2. It was felt that "some" (1) to "most" (2) children knew concepts by the end of the lesson.
3. Children enjoyed lesson.
   a. The tape presentation was noted as the most popular.
   b. Nothing was identified as "least" popular.
4. Suggestions:
   a. More activities (1 teacher)
   b. Worksheets of seasons for children to color (2 teachers)
5. Most important aspect of lesson was considered to be the tape and the Princess' name.
6. Time spent on lesson (All felt it to be "about right")
   a. 1 day - 30 minutes
   b. 2 days - 30 minutes
   c. 2 days - 60 minutes

Lesson 4 - Summer (3 teachers)

A. Purpose, Objectives, and Materials Needed

1. All felt purpose and objectives were clearly stated and easily understood. One teacher noted that the NOTE was helpful.
2. It was felt that "some" (2) to "most" (1) children had reached the objectives before the lesson.
3. All felt materials were easy to obtain.

B. Tape Presentation

1. None felt a pre-activity was needed.
2. All felt Lesson Organizer was helpful.
3. Introductory Relation - good
4. Definition - one felt definition was functional; one was unsure; and one felt definition became functional only after repetition and discussion.
5. Elaboration - generally helpful
   a. Boy with cloud over head was very good.
   b. Idea that there is not school was good.
6. Relations
   a. Two teachers felt children understood relations; one was unsure.
   b. All felt Summary Relation was very important.
   c. No suggestions for changing Summary Relation were made.
7. Pictures
   a. Cover - very good
   b. #1 - good to very good
   c. #2 - very good to excellent (one teacher noted cloud needs explanation)
   d. #3 - good to very good
   e. Big Picture #4 - good to very good (better in color)
   f. Big Picture #5 - very good

*Physical activities shown were very good.

8. Time for tape: 20 minutes (one teacher presented it twice - children needed repetition)

C. Post-Activities

1. Activity #1 - very good review
2. Activity #2 - good (one teacher noted children remembered fireworks but had trouble remembering when they were)
3. Activity #3 - very good; made concept concrete and children really enjoyed. (One teacher noted she didn't have time to do, but thought it was excellent - activity would take at least two days in her class)

D. General Comments on Lesson

1. All felt purpose and objectives of lesson were met.
2. It was felt that "most" (2) to "all" (1) children knew vocabulary concepts at end of lesson.
3. Children enjoyed lesson.
   a. Tape presentation and Post-Activity #3 were most popular.
   b. Nothing was noted as being "least" popular.
4. Suggestions
   a. One teacher used record and phonoview pictures on summer.
   b. More advanced children might be shown a thermometer with temperature very high.
5. Most important aspect of lesson was considered to be (1) Tape presentation, (2) Inclusion of holiday, (3) Post-Activity #3 (Scrapbook)
6. Time spent on lesson (All felt it to be "about right")
   a. 1 day - 90 minutes
   b. 2 days - 90 minutes
   c. 3 days - 90 minutes

Lesson 5 - Fall (2 teachers)

A. Purpose, Objectives and Materials Needed

1. Both felt purpose and objectives were clearly stated and easily understood.
2. It was felt that "some" (1) to "most" (1) children had reached the objectives before the lesson.
3. There was no difficulty with the materials needed.

B. Tape Presentation

1. Neither felt a pre-activity was needed.
2. Both felt Lesson Organizer was helpful.
3. Introductory Relation - good, especially picture.
4. Definition - one felt definition was functional; one was unsure.
5. Elaboration - generally helpful; pictures were very good.
6. Relations
   a. One teacher felt children understood relations; one was unsure.
   b. Both felt the Summary Relation was very important.
   c. No suggestion for changing the Summary Relation was made.
7. Pictures
   a. Cover - very good
   b. #1 - good to very good
   c. #2 - good to very good
   d. #3 - very good
   e. BP #6 - very good
   f. BP #7 - very good to excellent
   g. BP #8 - very good to excellent
8. Time for Tape: 20-25 minutes

C. Post-Activities

1. Activity #1 - very good for review; good questions.
2. Activity #2 - very good to relate season to holiday;
3. Activity #3 - pictures and questions were good. One teacher noted that activity might have been a little better if a story had been included.
4. Activity #4 - excellent; good summary and review.
5. Activity #5 - excellent.

D. General Comments on Lesson

1. Both felt purpose and objectives of lesson were met.

2. It was felt that "most" (1) to "all" (1) children knew the vocabulary concepts at the end of the lesson.
3. Children enjoyed lesson.
   a. Activity #5 (scrapbook) was noted as most popular by both teachers; one also felt the tape was popular.
   b. Nothing was mentioned as being "least" popular.
4. Most important aspect of the lesson was considered to be the Post-Activities.
   a. One teacher specifically mentioned Activities #4 and #5.
   b. Other teacher noted that although the tape introduced the concept, the "post-activites really made sure that the class had learned the concepts."
5. Time spent on Lesson (felt to be "about right")
   a. 3 days - 120 minutes (2 hours)
   b. 1 day - 90 minutes (2 1/2 hours)

Lesson 6 - Winter (2 teachers)

A. Purpose, Objectives and Materials Needed

1. Both felt purpose and objectives were clearly stated and easily understood.
2. It was felt that "some" (1) to "most" (1) children had reached the objectives before the lesson.
3. Materials needed were easy to obtain.

B. Tape Presentation

1. Neither felt a pre-activity was needed.
2. Both felt Lesson Organizer was helpful.
3. Introductory Relation - good
4. Definition - both felt definition was functional.
5. Elaboration - generally helpful; pictures and content very good.
6. Relations
   a. Both felt children understood the relations presented.
   b. Both felt Summary Relation was very important. Teacher-directed nature of the four Season lessons was especially liked.
   c. No suggestions for changing the Summary Relation were made.
7. Pictures
   a. Cover - very good
   b. Pictures #1 - #3
   c. Big Pictures #9, #10
   d. Transparency #1

   } all considered "good" to "very good"
8. Time for Tape: 20-25 minutes

C. Post-Activities

1. Activity #1 - very good for review
2. Activity #2 - very good; colored for children; not all children had realized that Christmas came in "Winter."
3. Activity #3 - excellent; use of pictures is very good.
4. Activity #4 - very good.

(Note: No one indicated they had used the Optional Activities)

D. General Comments on Lesson

1. Both felt purpose and objectives of lesson were met.

2. It was felt that "most" (1) to "all" (1) children knew vocabulary concept at end of lesson.
3. Children enjoyed lesson.
   a. Most popular were (1) Transparency, (2) Scrapbook, and (3) Tape.
   b. Nothing was noted as being "least" popular.
4. Most important aspect of lesson was considered to be the post-activities.
5. Time spent on lesson (felt to be "about right")
   a. 2 days - 90 minutes (1 1/2 hours)
   b. 1 day - 150 minutes (2 1/2 hours)

LESSON 8: MY TREE

LESSON 9: ORDERING ACTIVITIES

A. Objectives

1. Names the current season when asked.
2. Orders the seasons starting with the season child named as the current one.

B. Performance of classes

	*School 1		*School 2		**School 3		**School 4	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1. Identifies current season	46	73	33	75	11	28	33	60
2. Orders seasons	23	54	22	38	0	0	8	10

C. Interpretation

1. Low pretest scores show a need for instruction on naming the current season. The criterion level for mastery was not quite reached after instruction by classes 1 & 2. The test question seemed adequate, but again, the accompanying test pictures showed a need for revision. Since instruction is entirely teacher-directed, more activities and hints to the teacher should be included.
2. Low pre and posttest scores indicate a need for improving the instruction on ordering the seasons. The inclusion of additional activities and/or a greater variety is indicated.

*Did not complete instruction related to objective 2.

**Did not receive instruction on these lessons.

Comments on Book One

A. General Comments: A generally positive attitude toward the Unit outline and the materials was expressed. No one had any suggestions for revising the format. The two teachers who had never used the materials before indicated they had no difficulty using the materials in their present format.

The meeting was relatively short because comments on the evaluation forms were extensive. Progress in the Unit was as follows:

(1) One teacher completed Lessons 1 and 2.
(2) One teacher completed Lessons 1 through 4.
(3) Two teachers completed all lessons but the last one (Lesson 9).

B. Specific Comments on Lessons

1. Calendar Skills
   a. This was not a lesson, but a section of activities which was to be used as the children proceeded through the other lessons in the book. All teachers used this section.
   b. Children had great difficulty with the ordinals (first, second, etc.).
      (1) It was proposed that more activities needed to be suggested here.
      (2) One teacher had one suggestion: Use the ordinals when lining children up for lunch (e.g., You will be first in line, you will be second, etc.). Children must be in correct places when they get into line.
   c. It was also suggested that some activities should be given for the recognition of numbers (at least for those found on the calendar, 1-31).

2. Lesson 1 - "After" Activities

   a. All teachers thought suggested activities were good.
   b. One teacher noted that some questions asked weren't specific enough for her children (e.g., "What did we do after lunch?" brought many responses -- children didn't know she meant "right" after lunch). This teacher suggested that a good set of questions would deal with TV programs (e.g., "What comes after X?").

3. Lesson 2 - Happy Birthday

   a. All teachers agreed when it was suggested that the picture showing changes in one year should include pictures of all four seasons (not just three as it is now).
   b. Stress on use of label "years old" was good and necessary.
   c. The reinforcement of "year" as the time from one birthday to the next is very important.
   d. One teacher suggested that physical activities were very important for her children - probably most effective if used in relation to each season.

4. Lesson 3 - Princess Summer-Fall-Winter-Spring

   a. Objective #2 should be starred (one not expected to be mastered immediately).
   b. It was suggested that there be a coloring post-activity so the children are given a small break between two tape presentations.

5. Lesson 4 - Summer

   a. "Fourth of July" was very difficult for the children to say, but they all knew what it was.
   b. Physical activity could be introduced by having children pantomime summer activities (could be done for each season).
   c. One teacher used "phono view." It might be nice to make a similar tape recording with summer sounds (etc.) for each season.

6. Lesson 5 (Fall), 6 (Winter), and 7 (Spring)

   -- Each lesson was discussed briefly. No problems were noted.

7. Lesson 8 - My Tree

   -- All teachers noted that the Lesson was excellent. Children loved the tape presentation.

8. Lesson 9 - Ordering Activities

   Only two teachers reached this lesson, and each had only done one or two activities. It was suggested that there may be a need for more stress on the different ordering of the seasons (e.g., starting with Winter, and saying the seasons in order).

NOTE: The proposed outlines for Books Two and Three were discussed and no problems were noted. One teacher suggested that throughout these books, we might use boxes to show relative duration of various time periods (e.g., Week box has room for seven clothespins labeled with names of days; same for four weeks in month, 12 months in year).

Discussion

The data presented in the Results section of this paper include recommendations for revisions in the Time with the Calendar Unit. As stated previously, the Time with the Calendar Unit was the last of the five units in the Money, Measurement and Time Program to undergo development and pilot-testing. The result was a nearly finalized version of the Unit for pilot-testing. Each of the feedback sources reported here (i.e., testing, teacher evaluation forms, and the Teacher Review Board meeting) provided important information as to the effectiveness and useability of the Calendar Unit. For example, the test data identified specific areas where instruction was weak. The evaluation forms tapped the teachers' immediate reactions to each aspect of the lessons in the Unit, and the Teacher Review Board meeting allowed the teachers to discuss their reactions with project directors and with other teachers, so as to make final recommendations for revision.

Six aspects of the pilot-test version of the Calendar Unit were evaluated, as specified in the formative evaluation design (cf. Krus, Thurlow, Turnure, Taylor, & Howe, 1974): 1) Need for instruction, 2) Instructional effectiveness, 3) Design of the materials, 4) Content, 5) Sequencing, and 6) Test instruments. Each feedback source provided specific information about one or more of these aspects, and generally, every aspect was evaluated on the basis of feedback from several sources.

The need for a program of instruction to teach calendar-related vocabulary and skills to EMR children was supported by the pretest data obtained during the formative evaluation. For example, only 58% of the children labeled a "winter" scene and only 20% correctly ordered pictures of the four seasons. In addition, data obtained from testing conducted prior to the formative evaluation (Riegel & Taylor, 1973) showed a need for the instruction included in Books Two and Three. Only 26% of the children could adequately describe a calendar and a mere 6% could correctly name the seven days of the week. Clearly, instruction was needed, and teachers reconfirmed indications that available materials dealing with calendar instruction were inappropriate for their children.

An analysis of the instructional effectiveness of Book One was included in the formative evaluation. An 11-item test was constructed to evaluate each of the vocabulary words and/or the definitions and was administered as both the pretest and posttest. The results from these tests highlighted specific areas where the instruction had not been effective. For example, in this pilot-test, the data indicated that there was insufficient instruction on ordering the seasons to bring the students' performance level up to 80% mastery. This area of instructional weakness, and others like it, provided suggestions for revisions in the Time with the Calendar Unit. Each source of feedback was consulted to make final decisions as to the revisions which should be made in the Calendar Unit.

No major revisions in the design of the materials were suggested as a result of the formative evaluation feedback from the Calendar Unit. A generally positive attitude toward the Unit outline and the materials was expressed at the Teacher Review Board meeting. No suggestions were made for revising the format, and the two teachers who had never used the materials before indicated they had no difficulty with them. As with the Time with the Clock formative evaluation (Krus, Howe, Thurlow, Taylor, & Turnure, 1975), this evaluation indicated that the use of an introductory tape lesson (to accustom the children to listening to a tape presentation and simultaneously looking at pictures, before actual instruction was started) and a central character (to introduce the introductory tape and all other lessons) increased the overall interest in the Unit, as well as maximized the effectiveness of the advance organizer and the use of the tape presentations.

A system of sequential books was first tested in the formative evaluation of the Time with the Clock (Krus, Howe, Thurlow, Taylor, & Turnure, 1975) and the results indicated that the organization was effective for instruction (previous units had been organized according to the "Pre-primary" and "Primary" distinction used in the public schools). Thus, sequential organization was also used in the design of the Time with the Calendar Unit and its appropriateness was further substantiated.

In terms of content of the Calendar Unit, only minor revisions were noted as a result of the formative evaluation.

For example, comments made by the teachers in the lesson evaluation forms and at the Teacher Review Board meeting indicated the importance of prerequisite number skills. Specifically they noted the great difficulty the students had with the ordinals (first, second, etc.), and the need for activities on the recognition of numbers (at least 1 - 31) was stressed. It was further noted that the activities that had been included had been unpopular with the students. Such feedback indicated that in revising the Calendar Unit an attempt should be made to include number activities which were more interesting.

The need for additional activities was noted at several points in Book One. In the pilot-test version, post-activities were not included after Lesson 3. As a result of the formative evaluation, however, it was recommended that optional post-activities be included for those students showing a need for additional instruction. Recommendations were also made that activities be added to Lesson 9 to present the ordering of the seasons starting with any season (e.g., starting with winter, etc.).

The content included in Books Two and Three was discussed at the Teacher Review Board meeting and no problems were noted. The only suggestion made was that activities presenting the relative duration of various time periods covered in the books should be included (e.g., one month is longer than one week).

Sequencing of instruction underwent extensive investigation prior to the development of the pilot-test version of the Calend r

Unit, and as a result, no changes were recommended in the sequencing of the instruction. Initially, prototype materials dealing with calendar skills were developed for testing with 120 handicapped children (Riegel & Taylor, 1973). Use of the materials produced numerous suggestions, particularly in regard to basic calendar vocabulary and skills. For instance, the teachers suggested that the relationship between year and the four seasons should be emphasized. Also, when the terms "day," "week," and "month" were presented together in a tape presentation to show their relative duration, it was found that this was too much information for the student to process all at once. Also, the fact that all pictures presented were pictures of calendars made the instruction rote, and the children became highly bored and distracted.

In addition, when it became evident that only part of the Unit would undergo the formative evaluation process, extensive testing with non-retarded children was also conducted. Objectives covering all vocabulary and skills related to the calendar were compiled. The resulting 36 test questions were used with children from "regular" classrooms. Specific attention was given to the "natural sequencing" of the objectives which emerged in data obtained from this testing. (See Appendix 2 for a copy of the test questions used.) The investigation of this data along with that obtained from the use of the prototype materials was invaluable in producing a complete revision of the Time with the Calendar Unit for pilot-test purposes.

A final consideration included in the formative evaluation of the Calendar Unit related to testing procedures. To supplement the testing procedures included in the Calendar formative evaluation, an additional test was constructed based on the objectives from Books Two and Three. Since formative testing conducted was only related to Book One instruction, this second test included all the vocabulary and skills presented in Books Two and Three. (See Appendix 5 for a copy of the test questions.) It was administered to 9 pre-primary and 13 primary EMR students, and this provided the major impetus in the revision of testing instruments related to Books Two and Three.

Feedback obtained in all phases of the evaluation of the Calendar Unit (formative evaluation, summer-school evaluation, etc.) and the evaluations of the other four units, allowed for the revision of the 45-item pilot-test instruments to a 7-item test for diagnostic purposes and a 25-item test for pretest and posttest measures (See Appendix 6 for a copy of the resulting assessment instruments.)

Since information obtained from the testing of the other units was sufficient for purposes prescribed in the formative evaluation design of the Program (cf. Krus, Thurlow, Turnure, Taylor, & Howe, 1974), and due to conerns arising from budget and time constraints, a large-scale (summative) field-testing of the Time with the Calendar Unit was not conducted. Also, since no major revisions were recommended during this formative evaluation, it appeared that the pilot-test version of the Calendar Unit was effective and would be complete with the noted revisions incorporated.

The formative evaluation process employed here is based on one which has been used by the Vocabulary Development Project to evaluate other instructional units and one which would be valuable to many other development and evaluation projects.

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Footnotes

[1]The formative evaluation of the Time with the Calendar Unit benefitted from the input of many individuals. A large debt of gratitude is due, of course, to Cristol Peterson, Jeanne Morrissey, and Delores Anderson, the three teachers who assisted in the development of the Time with the Calendar Unit. Appreciation is also extended to the Special Education Department of the St. Paul Public Schools for its cooperation, and especially to the teachers and children who pilot-tested the materials. Finally, special thanks are due to Joni Blumenfeld Troup for her assistance during all phases of the evaluation.

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APPENDICES

1. Description of the Pilot-Test Version of the Time with the Calendar Unit

2. Experimental Test Questions

3. Calendar Unit (Book One) Pilot-Test Questions

4. Sample Evaluation Forms

5. Calendar Unit (Books Two and Three) Pilot-Test Questions

6. Revised Time with the Calendar Tests

Appendix 1

A DESCRIPTION OF THE TIME WITH THE CALENDAR UNIT

The Time with the Calendar Unit consists of three books of instruction to be used sequentially. The books develop calendar concepts by beginning with instruction on the concept "year," expanding the meaning of "year" through instruction on the four seasons, and then progressing to instruction on the recognition and function of the calendar, on the concepts of days and weeks and finally, to instruction dealing with months. The major focus of each book, along with a summary of the lessons, is provided below:

Book One

Book One of the Time with the Calendar Unit presents the four seasons of the year. The instruction stresses beginning time concepts related to seasonal changes. There are nine lessons in Book One.

The book begins by introducing the concept of one year (in terms of "birthdays" and seasonal changes), and then progresses to instruction on the characteristics of each season. After a review of the seasons, the book concludes with instruction on the sequencing of the four seasons.

Calendar Skills

> The first section of Book One presents several activities for developing beginning calendar skills. The activities are to be used simultaneously with the instruction in Book One, so that the children have the necessary skills to enter Book Two.

Lesson 1: "'After' Activities"

Vocabulary Word: AFTER

The children are taught the concept of "after."

Lesson 2: "Happy Birthday!"

Vocabulary Words: BIRTHDAY, YEAR, (YEARS OLD)

The children are introduced to the word "year." They are taught that a "birthday" is a special day that comes once a year.

Lesson 3: "Princess Summer-Fall-Winter-Spring"

Vocabulary Words: SEASON (SUMMER, FALL, WINTER, SPRING)

The children are taught that there are four seasons in a year, each related to a weather change.

Lesson 4: "Summer"

Vocabulary Word: SUMMER

The children are taught that summer is one season of the year.

Lesson 5: "Fall"

Vocabulary Word: FALL

The children are taught another season of the year - fall.

Lesson 6: "Winter"

Vocabulary Word: WINTER

The children are taught about the season of winter.

Lesson 7: "Spring"

Vocabulary Word: SPRING

The children are taught the last season - spring.

Lesson 8: "My Tree"

This lesson reviews the characteristics of the four seasons.

Lesson 9: "Ordering Activities"

Vocabulary Words: SUMMER, FALL, WINTER, SPRING

The children are taught ordering of the four seasons beginning with any season.

Book Two

Book Two in the Time with the Calendar Unit provides an introduction to the use of the calendar. It presents the calendar and its function, and relates concepts like "day" and "week" to the calendar. There are six lessons in Book Two.

The book begins with an introduction to the calendar, its purpose and function. Frequently used terms such as "day," "yesterday," "week," are introduced and related to the calendar. In general, the book is concerned with teaching the children to read a calendar.

Calendar Skills

This first section of Book Two presents several activities designed to expose the children to the names of the months. The activities are to be used simultaneously with the instruction in Book Two, so that the children will have the necessary skills to enter Book Three.

Lesson 1: "'Before' and 'After' Activities"

Vocabulary Words: BEFORE, AFTER

The children are taught the concepts of "before" and "after."

Lesson 2: "Days"

Vocabulary Words: SUNDAY, MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY

The children are introduced to the written words for the days of the week.

Lesson 3: "Calendar"

Vocabulary Word: CALENDAR

The children are taught various skills in "reading" a calendar.

Lesson 4: "Yesterday, Today, Tomorrow"

Vocabulary Words: YESTERDAY, TODAY, TOMORROW

The children are taught the identification of yesterday, today and tomorrow on the calendar.

Lesson 5: "A Week at Camp"

Vocabulary Words: WEEK (THIS WEEK, NEXT WEEK, LAST WEEK)

The children are taught that one week is seven days, and are introduced to the concepts of "this week," "next week," and "last week," in relation to the calendar.

Lesson 6: "Days of the Week"

Vocabulary Words: WEEKDAY, (SCHOOLDAY) WEEKEND

The children are taught to identify the weekdays (schooldays) and the days of the weekend.

Book Three

Book Three of the Time with the Calendar Unit deals with more advanced skills related to the use of the calendar. The instruction stresses the month and its relation to other time periods presented on the calendar. There are six lessons in this book.

The book begins with an introduction to month in relation to the calendar. Instruction then progresses to naming the months, and sequencing the months. Skills related to reading and writing dates are taught. The book concludes with instruction on the year in relation to months.

Lesson 1: "Months"

Vocabulary Word: MONTH

The children are introduced to the month in relation to the calendar.

Lesson 2: "Naming the Months"

Vocabulary Words: JANUARY, FEBRUARY, MARCH, APRIL, MAY, JUNE, JULY, AUGUST, SEPTEMBER, OCTOBER, NOVEMBER, DECEMBER

The children are taught to name the twelve months and are introduced to the written words and abbreviations for the months.

Lesson 3: "More about Months"

Vocabulary Words: (THIS MONTH, LAST MONTH, NEXT MONTH)

The children are taught about the number of days in each month, the naming of the months before and after the present month, and the months with major holidays.

Lesson 4: "The Date"

Vocabulary Word: DATE

The children are introduced to the term "date" and taught several skills related to this concept (e.g., locating dates, writing dates).

Lesson 5: "Year"

Vocabulary Words: YEAR (NEW YEAR'S DAY, THIS YEAR, LAST YEAR, NEXT YEAR)

The children are taught that there are twelve months in one year and that the number of the year changes on New Year's Day.

Lesson 6: "Making a Calendar"

The children are presented a comparison of the lengths of a day, week, month and year, and provided with a review of all concepts taught in the Calendar Unit.

Appendix 4

EXPERIMENTAL TEST QUESTIONS

1. Label Calendar

DO: Show a calendar Move hand over calendar	
SAY: What's this called?	
Scoring: The only acceptable response is calendar.	

2. Describe

DO: Show same calendar	
SAY: Why do we use a calendar?	PROMPT: Why do we look at the numbers on the calendar?
Scoring: Record student's total response.	

3. Fact/Seasons

DO: Remove calendar	
SAY: How many seasons are there in one year? (yes/no), there are 4 seasons. Tell me what they are.	
Scoring: Note student's exact response.	

4.

DO NOT show any pictures	
SAY: What season is it right now?	
Scoring: For an acceptable response, the student must state the appropriate season.	

5. Identify Summer

DO: Show picture A	
SAY: Look at all the pictures on this page - show me the picture of summer.	PROMPT: Which picture looks like summer?
Scoring: For an acceptable response, the student must only select the picture of summer.	

6. Identify Winter

DO: Show picture A again	
SAY: Let's look at this page again. This time pick the picture that shows winter.	PROMPT: Which picture looks like winter?
Scoring: For an acceptable response, the student must only select the picture of Winter.	

7. Identify Fall

DO: Show picture B	
SAY: Now look at all these pictures and show me the picture of fall.	PROMPT: Which picture looks like fall?
Scoring: For an acceptable response, the student must only select the picture of Fall.	

8. Identify Spring

DO: Show picture B again	
SAY: Look at the pictures on this page again - show me the picture that looks like spring.	PROMPT: Which picture looks like spring?
Scoring: For an acceptable response, the student must only select the picture of Spring.	

9. Order Seasons

DO: Show set of picture cards (showing seasons).

SAY: Look carefully at these four pictures. (point out the pictures while saying the following:) This picture shows Summer, this one shows Spring, this is Fall, and this is Winter. Put the pictures in order of what happens during a year.	PROMPT: If the student does not respond because he seems confused by the ordering concept. SAY: We'll put Summer first -- now you finish the row, what comes next? Put the pictures of the seasons in the order of how they happen.
Scoring: If you think the student could not identify the cards as representing the seasons (also checked in questions #3, 4, 5, & 6) note this in the appropriate place on the score sheet. For an acceptable response, the student must make a correct sequence.	

10.

DO: Show picture C - a calendar without numbers or name of month.

SAY: I started to make this calendar but I need your help to finish it -- Show me and tell me what's missing.	PROMPTS: If student state numbers ASK: And what do the numbers tell us? Before proceeding to question 9 ASK: Can you think of anything else that should be on this calendar.
Scoring: Record all students' responses on score sheet checklist (and space provided).	

11. Label Year

DO: Show picture C again and point to year printed on calendar.

SAY: What do these numbers tell us?	
Scoring: For an acceptable response, the student must state year.	

12.

DO NOT show any pictures	
SAY: What is today's date?	
Scoring: Note students exact response on scoresheet.	

13. Demonstrate/finding date

DO: Use a monthly calendar that the student may mark on. Have a pencil handy to give to student.	
SAY: Here's a pencil. Now, I want you to circle today's date on this calendar.	
Scoring: For an acceptable response, the student must circle the actual date the test was given on.	

14. Demonstrate calendar (yesterday, week, tomorrow)

DO: Use same calendar from item #13.	
SAY: (If student did not respond to item #13 SAY) OK, today is (give month and number-day test is given) I'll mark it on the calendar. Now you circle yesterday's date Find one week from today and mark it Put an X on tomorrow's date	
Scoring: Note student's response in checklist provided after #14 on scoresheet.	

15. Match week

DO NOT show any pictures	
SAY: Which is longer - a day or a week?	
Scoring: The only acceptable response is week.	

16. Match yesterday

DO NOT show any pictures	
SAY: Is yesterday before or after today?	
Scoring: The only acceptable response is before.	

17. Demonstrate use of calendar

DO: Show a monthly calendar that the students may mark on.	
SAY: Now I have another calendar for you to look at. Here's a pencil - I want you to mark what I tell you. Circle one week on the calendar Put X's on the days that are the weekend Tell me the name of the last day of the month What day is the 19th on?	PROMPT: Circle any week (If student names the days SAY) OK, now show me on the calendar the days that are the weekend.
Scoring: Note student's response in checklist provided after #16 on the scoresheet.	

18. Utilize Summer

DO NOT show any pictures	
SAY: What season comes after Spring?	
Scoring: The only acceptable response is Summer.	

19. Describe Winter

DO NOT show any pictures	
SAY: Do you wear swimming suits outside in the Winter? Why not?	
Scoring: Note student's response in total.	

20. Utilize Winter

DO NOT show any pictures	
SAY: What season comes after Fall.	
Scoring: The only acceptable response is Winter.	

21. Describe Fall

DO NOT show any pictures	
SAY: Tell me what happens in the Fall?	PROMPTS: What's the weather like? What do you do in the fall?
Scoring: Note student's total response.	

22. Match tomorrow

DO NOT show any pictures	
SAY: Is tomorrow before or after today?	
Scoring: The only acceptable response is after.	

23. Fact/week

DO NOT show any pictures	
SAY: How many days are there in a week?	
Scoring: The only acceptable response is 7.	

24. Fact/day

DO NOT show any pictures

SAY: What day of the week is today?	
Scoring: Circle the day the test is given and write the response the child gives.	

25. Fact/days of the week

DO NOT show any pictures

SAY: Name the days of the week - in order.	
Scoring: Record students exact response	

26.

DO NOT show any pictures

SAY: Name the days that you go to school on.	PROMPT: Which days of the week do you go to school on?
Scoring: Record students exact response.	

27. Match year

DO NOT show any pictures

SAY: Which is longer -- a year or a month?	
Scoring: The only acceptable response is year.	

28. Fact/month

DO NOT show any pictures	
SAY: How many months are there in a year?	
Scoring: The only acceptable response is 12.	

29. Fact/names of the month

DO NOT show any pictures	
SAY: Name the months of the year -- in order.	
Scoring: Record students exact response.	

30. Match month

DO NOT show any pictures	
SAY: Which is longer - a week or a month?	
Scoring: The only acceptable response is month.	

Appendix 3

CALENDAR UNIT (BOOK ONE) PILOT-TEST QUESTIONS

SUBTEST 1 - The Seasons

1. Describe: after

DO NOT show any pictures.

SAY:	PROMPT:
I want you to stand up, turn around and then sit down. (Allow child to do task) Tell me what you did <u>after</u> you stood up.	If necessary, repeat question.
Scoring: For an acceptable response, the student must state that he turned around.	

2. Utilize "years old"

DO NOT show any pictures.

SAY:	PROMPT:
How old are you?	If child says "(8)", SAY: (8) what? Are you (8) days old?
Scoring: For an acceptable response, the student must use the phrase "years old." (The accuracy of the number is not important.)	

3. Utilize year

DO NOT show any pictures.

SAY:	PROMPT:
Let's pretend that <u>today</u> is your birthday. How long would you have to wait for your next birthday?	If necessary, repeat question.
Scoring: For an acceptable response, the student must state a <u>year</u>.	

4. Fact/Season

DO NOT show any pictures.	
SAY: How many seasons are there in one year?	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state 4.	

5. Labels Seasons

DO: Give the student the 4 season cards stacked in the following order: 1. Fall 2. Summer 3. Spring 4. Winter	
SAY: Here are pictures of 4 seasons. Look at each one and tell me which season it shows.	PROMPT: What's in the first picture? What season does it show?
Scoring: After each season listed on the scoresheet indicate a yes or no for labeling the picture that corresponds to the season.	

6. Orders Seasons

DO: Spread the season cards on table in front of child in order indicated in question 5.	
a.	
SAY: Which picture shows the season it is right now?	PROMPT: If necessary, repeat question.
Scoring: Indicate the acceptability of the response after 6a on the on the scoresheet and continue with the question.	

b.

SAY: OK, starting with this picture (indicate picture child selected in 6a) put the other pictures in the order they happen. Put the pictures in order of what happens during a year.	PROMPT: If student does not respond, SAY: We'll put (name the season of the card the student selected) first -- now you finish the row, what comes next?
Scoring: For an acceptable response, the student must make a correct sequence.	

7. Describe Fall

DO NOT show any pictures.

SAY:	PROMPT:
What happens to trees in the Fall?	Think about the trees outside in the Fall. What happens to trees in the Fall?

Scoring: Record student's response on the scoresheet and score (yes/no) for acceptability.

Acceptable responses include: the leaves fall off the trees; the leaves change colors (red, yellow, orange).

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SAMPLE EVALUATION FORM

TIME WITH THE CALENDAR

Teacher_____

School_____

Lesson # 2 Title Happy Birthday Date_____

Purpose, Behavioral Objectives, and Materials Needed

Were the purpose and objectives stated clearly enough for you to understand the goal of the lesson?

	None	Some	Most	All
How many children did you feel had reached the objectives before the lesson was presented?	( )	( )	( )	( )

Did you have any trouble supplying the needed materials?

Tape Presentation

	Yes	No	Unsure
No pre-activity was specified. Did you feel your class needed a pre-activity to prepare them for the tape?	( )	( )	( )
Was the Lesson Organizer helpful?	( )	( )	( )
(Introductory Relation): Was the introductory relation appropriate for the children (content, pictures, etc.)?	( )	( )	( )
(Definitions): Following the tape presentation, did you feel the children had obtained definitions for each of the words presented in the tape?	( )	( )	( )

List each word in the lesson and the type of definition you feel most of the children in your class obtained for that word (i.e., none, rote, non-generalizable, functional, etc.).

(Elaborations): Overall, were the elaborations distracting or helpful to the children?

( ) Helpful ( ) Distracting ( ) Neither

List any elaborations which you felt were especially superior or inferior.

(Relations): Did you feel the children understood the relationship between the words by the end of the tape presentation?

( ) Yes ( ) No ( ) Unsure

Do you think the Summary Relation at the end of the tape presentation played a significant role in insuring that the children understood the relationships?

( ) Yes ( ) No ( ) Unsure

Is there any form (e.g., story, questions, physical activity) that you think would have made the Summary Relation more effective or interesting?

List the numbers of the pictures and/or worksheets used during the tape presentation and describe their appropriateness (e.g., very good, adequate, distracting, inappropriate, unnecessary).

How long did it take your class to complete the tape presentation?

Post-Activities

A number of post-activities were suggested to you. Please list each activity you used by kind (Required or Optional) and number, and give your opinion of the activity and how you think it might be strengthened (include, if possible, the amount of time spent on each activity). It is important that we get your specific comments on every activity that you have used. Feel free to use as much paper as necessary.

General Comments on Lesson

Look at the purpose and behavioral objectives for the lesson. Did the lesson as a whole meet these objectives?

How many children did you feel knew the vocabulary concepts at the end of the complete lesson?

( ) None ( ) Some ( ) Most ( ) All

Did the children enjoy the lesson?

What aspect of the lesson was most popular?

What aspect of the lesson was least popular?

Are there any changes or additions you would recommend to enhance the children's enjoyment and/or learning without distracting from the lesson?

If you had to pick the one aspect of the lesson which you felt was the most important in insuring that the children learned the concepts presented, what would you select in this lesson?

How much actual time did you spend on this lesson:

Total number of days? _____

Approximate total amount of time? _____

What was your feeling about the length of this lesson?

( ) Too long ( ) Too short ( ) About right

Appendix 5

CALENDAR UNIT (BOOKS TWO & THREE) PILOT-TEST QUESTIONS

SUBTEST 2 - BOOK TWO

1. Calendar

DO NOT show any pictures.	
SAY: What would you look at to find out what day it is?	PROMPT: What would you use to find out the day?
Scoring: The only acceptable response is calendar.	

2. Before/After

DO: Show calendar labeled CR 5.	
SAY: (Point to the 4th) a. What day comes before Wednesday? b. What day comes after Wednesday?	PROMPT: If necessary, repeat questions.
Scoring: Acceptable responses include Tuesday/Thursday.	

3. Demonstrate/finding today

DO: Use monthly calendar (showing the current month) that the student may mark on. Have a pencil handy to give to student.	
SAY: Here's a pencil. I want you to circle today on this calendar.	
Scoring: For an acceptable response, the student must circle the actual date the test was given on.	

4. Demonstrate calendar

DO: Use same calendar from item #3.

SAY: (If student did not respond to item # 3 SAY) OK, today is (give month and number day test is given) I'll mark it on the calendar. a. Now you circle yesterday. b. What day is the 19th on? (point to the 19th) c. Put an X on tomorrow. d. What day is the 3rd on?	PROMPT: Find (date) on this calendar.
Scoring: Note student's response in checklist provided after #4 on scoresheet.	

5. Demonstrate calendar (this week, next week, last week)

DO: Use a clean copy of calendar used in questions 3 & 4.

SAY: Here's a new calendar. Are you ready to do some more marking? a. Circle this week on the calendar. b. Which days are next week? c. Now mark last week.	
Scoring: The student must always include 7 days. Indicate responses on checklist provided.	

6. Fact/week

DO NOT show any pictures.

SAY: How many days are there in one week?	PROMPT: Tell me the number of days in one week.
Scoring: For an acceptable response, the student must state 7.	

7. Fact/names days

DO NOT show any pictures.	
SAY: Tell me the names of the days.	PROMPT: Name the days of the week.
Scoring: On scoresheet, circle the days the student names. If listing was in order, mark the box that indicates the correct order.	

8. Weekend

DO NOT show any pictures.	
SAY: What are the names of the weekend days?	PROMPT: What 2 days are on the weekend?
Scoring: For an acceptable response, the student must only state Saturday and Sunday.	

9. Abbreviations

DO: Show cards labeled CR 6-8.	
SAY: Each of the cards I'm going to show you has a short way of writing the days of the week. Tell me the name of the day each card says.	PROMPT: What does this card say? What day does it mean?
Scoring: For acceptable responses the student must state Friday/ Sunday/Tuesday.	

10. Abbreviations

DO: Show calendar picture CR 9.	
SAY: Now let's look at the letters on the top of the calendar. They tell the day. When I point to a letter you tell me the name of the day it means.	PROMPT: What day does this mean?
Scoring: For acceptable responses the student must state Saturday/ Wednesday.	

TIME WITH THE CALENDAR TEST

SUBTEST 3 - BOOK THREE

1. Month

DO: Show monthly calendar of current month.	
SAY: a. Point to the name of the month. b. Tell me the name of this month.	
Scoring: Indicate on scoresheet if student successfully points to the name of the month and states the name.	

2. Month (days, last day, first day)

DO: Show same calendar as used in question 1.	
SAY: a. How many days in this month? b. Find the last day of the month. What day of the week is that. c. Now tell me the name of the first day of the month.	PROMPT: If necessary, repeat questions.
Scoring: A checklist is provided on the scoresheet to indicate acceptability of each of the questions.	

3. Holiday

DO NOT show any pictures.	
SAY: What <u>month</u> do people celebrate Christmas?	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state <u>December</u>.	

4. Fact/month

DO NOT show any pictures.	
SAY: How many months are there in one year?	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state 12.	

5. January

DO NOT show any pictures.	
SAY: Tell me the name of the first month in a year.	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state January.	

6. December

DO NOT show any pictures.	
SAY: Tell me the name of the last month in a year.	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state December.	

7. Naming months

DO NOT show any pictures.	
SAY: Tell me the names of the months in order.	PROMPT: Tell me the names of the months that you know.
Scoring: Indicate student's response on scoresheet as either: correctly names 12 months in order/names some months (indicate number)/or names no months.	

8. Days in month

DO NOT show any pictures.	
SAY: How many <u>days</u> are there in April?	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state <u>30</u>.	

9. Match week

DO NOT show any pictures.	
SAY: Which is longer - a day or a week?	
Scoring: The only acceptable response is <u>week</u>.	

10. Match month

DO NOT show any pictures.	
SAY: Which is longer - a week or a month?	
Scoring: The only acceptable response is <u>month</u>.	

11. Labeling months (January, December, March)

DO: Show card labeled CR 10.	
SAY: Tell me the name of each of these months. (point to January) What does this say?	PROMPT: If necessary, point to each month and ask: What does this say?
Scoring: On scoresheet, circle those months the student responded appropriately to.	

12. Read date (September 6, 1974)

DO: Show card labeled CR 11.	
SAY: Tell me what this card says?	
Scoring: For an acceptable response, the student must use the complete phrase September 6, 1974.	

13. Year

DO: Show say picture as was used in question 12.	
SAY: (point to numbers 1974) What do these numbers tell us?	PROMPT: What do they mean?
Scoring: For an acceptable response, the student must state year.	

14. Read date (3-5-74)

DO: Show card labeled CR 12.	
SAY: What date is written on this card?	PROMPT: What do the numbers mean? Tell me the date.
Scoring: For an acceptable response, the student must state the complete phrase March 5th, 1974.	

15. Demonstrate date

DO: Show calendar labeled CR 13.	
SAY: Show me Sunday, April 8th.	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must indicate Sunday, April 8th.	

16. Demonstrate date and week

DO: Show calendar labeled CR 13.

SAY:	PROMPT: If necessary, repeat questions.
a. (point to the 11th) Tell me the date of this day. b. Now show me one week from this day.	
Scoring: a. student must state July 11th. b. student must indicate July 18th.	

17. New Year

DO NOT show any pictures.

SAY: Think about the calendar. When does a new year start on the calendar? What date?	PROMPT: On what date does a new year start? Does the new year start on March 7th? No, then when?
Scoring: For an acceptable response, the student must state January 1st.	

Appendix 6

REVISED TIME WITH THE CALENDAR TESTS

DIAGNOSTIC PLACEMENT TEST

1. SEASON

DO NOT show any pictures.	
SAY: How many seasons are there in one year?	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state 4.	

2. FALL

DO: Show picture C-1.	
SAY: (Point to fall picture.) What season does this picture show?	PROMPT: What season is it in this picture.
Scoring: For an acceptable response, the student must state fall.	

3. SUMMER

DO: Show picture C-1.	
SAY: (Point to summer picture.) What season does this picture show?	PROMPT: What season does this picture show?
Scoring: For an acceptable response, the student must state summer.	

4. TUESDAY

DO: Show picture C-2.	
SAY: What day of the week is the 19th on?	PROMPT: Tell me the name of the day that is the 19th?
Scoring: For an acceptable response, the student must state Tuesday.	

5. WEEK

DO: Show picture C-3.

SAY: Show me one week on this calendar.	PROMPT: Point to one week.
Scoring: For an acceptable response, the student must point out seven consecutive days.	

6. MONTH

DO NOT show any pictures.

SAY: Tell me the names of the months.	PROMPT: Tell me the names of the months that you know.
Scoring: For an acceptable response, the student must name all twelve months (not necessarily in order). You may find the information from this test item useful as a posttest measure. In case you do posttest this item you may wish to note on the scoresheet the total number of months named here.	

7. DATE

DO: Show picture C-4.

SAY: Show me April 8th.	PROMPT: Point to April 8th.
Scoring: For an acceptable response, the student must indicate April 8th.	

UNIT ACHIEVEMENT TEST

BOOK ONE SUBTEST

1. AFTER

DO NOT show any pictures.	
SAY: I want you to stand up, turn around and then sit down. (Allow child to do task.) Tell me what you did after you stood up.	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state that he turned around.	

2. YEARS OLD

DO NOW show any pictures.	
SAY: How old are you?	PROMPT: If child says "(8)", SAY: (8) what? (Wait for response. If no answer, ask:) Are you (8) days?
Scoring: For an acceptable response, the student must use the phrase "years old". (The accuracy of the number is not important.)	

3. SUMMER, FALL
   WINTER, SPRING

DO: Give the student the 4 season cards stacked in the following order: 1. Fall 2. Summer 3. Spring 4. Winter	
SAY: Here are pictures of 4 seasons. Look at each one and tell me which season it shows.	PROMPT: What's in the first picture? What season does it show?
Scoring: Each season is listed separately on the scoresheet. For an acceptable response, the student must label each of the season cards.	

4. SEASONS

DO: Spread the season cards on table in front of child in order indicated in question 3 (Fall, Summer, Spring, Winter).	
SAY: OK, now I would like you to put these pictures in the order they happen during a year. Put the pictures in order of what happens during a year.	PROMPT: If student does not respond, SAY: We'll put this card (choose Spring) now you finish the row, what comes next.
Scoring: For an acceptable response, the student must correctly order the seasons.	

BOOK TWO SUBTEST

1. CALENDAR

DO: Show picture C-5.	
SAY: What's this called?	PROMPT: What do we call this?
Scoring: For an acceptable response, the student must state calendar.	

2. DAYS OF THE WEEK

DO NOT show any pictures.	
SAY: Name the days of the week.	PROMPT: Tell me the names of the days of the week.
Scoring: For an acceptable response, the student must name all seven days of the week. For later comparison, it may be helpful to note the number of days named.	

3. TODAY

DO NOT show any pictures.	
SAY: What day is today?	PROMPT: Today is _____.
Scoring: For an acceptable response, the student must state the name of the day (Monday, Tuesday, etc.) the test is being given on.	

4. TODAY

DO: Show a current monthly calendar.

SAY: Point to today on this calendar.	PROMPT: Show me today.
Scoring: For an acceptable response, the student must indicate the date the test is being given on.	

5. TOMORROW

DO: Show same calendar from question 4.

SAY: Now find tomorrow on the calendar.	PROMPT: Point to tomorrow.
Scoring: For an acceptable response, the student must indicate tomorrow (day after "today").	

6. WEEKEND

DO NOT show any pictures.

SAY: What are the names of the weekend days?	PROMPT: What 2 days are on the weekend?
Scoring: For an acceptable response, the student must state only Saturday and Sunday.	

7. SUN

DO: Show picture C-6.

SAY: This shows a short way of writing a name for a day of the week. What day does this mean?	PROMPT: What does this picture say? What does it mean?
Scoring: For an acceptable response, the student must state Sunday.	

8. THUR

DO: Show picture C-7.	
SAY: What day does this mean?	PROMPT: What does this picture say? What does it mean?
Scoring: For an acceptable response, the student must state Thursday.	

BOOK THREE SUBTEST

1. MONTH

DO: Show picture C-8.	
SAY: How many days are there in this month?	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state 31.	

2. JANUARY

DO NOT show any pictures.	
SAY: Tell me the name of the first month of the year.	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state January.	

3. DECEMBER

DO NOT show any pictures.	
SAY: Tell me the name of the last month of the year.	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state December.	

4. APRIL

DO NOT show any pictures.	
SAY: How many days are there in April?	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state 30.	

5. MONTH

DO NOT show any pictures.

SAY: Which is longer -- a month or a week?	PROMPT: If necessary, repeat question.
Scoring: For an acceptable response, the student must state month.	

6. SEPTEMBER 10, 1974

DO: Show picture C-9.

SAY: Tell me what this picture says?	PROMPT: Read this date.
Scoring: For an acceptable response, the student must use the complete phrase September 10, 1974.	

7. FEBRUARY 21, 1982

DO: Show picture C-10.

SAY: Tell me what this picture says?	PROMPT: Read this date.
Scoring: For an acceptable response, the student must use the complete phrase February 21, 1982.	

8. YEAR

DO: Show picture C-10.

SAY: (point to numbers 1982) What do these numbers tell us?	PROMPT: What do they mean?
Scoring: For an acceptable response, the student must state year.	

9. 3-5-75

DO: Show picture C-11.	
SAY: What date is written on this card?	PROMPT: What do the numbers mean? Tell me the date.
Scoring: For an acceptable response, the student must state the complete phrase March 5th, 1975.	

10. DATE

DO: Show current monthly calendar (with name of month and year visible). Hand student a pencil and a small sheet of paper.	
SAY: This is today (point out day on calendar). I want you to print today's date on this paper.	PROMPT: Print the date.
Scoring: Acceptable responses include: The month written out (November 8, 1974) or abbreviated (Nov 8, 1974) or the date written numerically (11-8-74).	

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